State of Minnesota \ LEGISLATIVE COMMISSION ON PENSIONS AND RETIREMENT

TO: Members of the Legislative Commission on Pensions and Retirement

FROM: Ed Burek, Deputy Director EB

RE: Larger Public Pension Fund Investment Performance Overview: Revised First Consideration (Preliminary Information)

DATE: August 20, 2002

Introduction

This memo revises the Commission staff's July 15, 2002, "Larger Public Pension Fund Investment Performance Overview: First Consideration (Preliminary Information)" memo by incorporating data received from the Minneapolis Fire Relief Association (MFRA) after the July 15, 2002, memo was written. The discussion and analysis in the memo have been revised accordingly.

As an interim topic, the Legislative Commission on Pensions and Retirement (LCPR) chose to review the investment returns and relative performance of the larger Minnesota public pension plan funds. Unlike recent prior LCPR staff public pension fund performance reviews that covered only the statewide public pension plan funds and the remaining local police and paid fire plans, this memo also includes a review of the larger volunteer fire plans. Inclusion of the larger volunteer fire plans is warranted because of the increasing asset size of volunteer fire plans.

In total, the boards of volunteer fire plans are responsible for investing considerable assets. If we consider the combined assets of the approximately 700 volunteer fire plans (including Bloomington Fire) at the start of calendar year 2000, the total assets in these plans were $427.5 million. That is more total assets than the Duluth Teachers Retirement Fund Association (DTRFA) which had $284.5 million in assets, or the Minneapolis Fire Relief Association (MFRA), with $344.2 million, or the Minneapolis Police Relief Association (MPRA), with $417.4 million. The Legislature understands the importance of pension fund investment performance, and understands the need to have the local police and paid fire plans, first class city teacher plans, and all other large non-volunteer fire plans be well invested and well administered. However, while volunteer fire boards in total control more money than the assets of DTRFA, MFRA, or the MPRA, the vast majority of volunteer fire plan boards receive little useful information about their investment performance, and it is unlikely that they would be able to effectively use the information if it were received. These boards are not composed of individuals skilled in investment matters. At the state level, the only investment performance information available on volunteer fire funds is some asset mix information and the total portfolio return that is computed by the Office of the State Auditor. The assets of the volunteer fire plans are spread over so many plans that it is not practical to effectively monitor the investment performance of these funds, and it is not possible given the current information.

The first section of this memo reviews the total portfolio returns as reported in State Auditor reports of the larger volunteer fire plans. For purposes of this memo, larger volunteer fire plans are those plans with assets equal to or greater than that of the Virginia Fire Relief Association, which is the smallest of the four remaining local police and paid fire plans. As of the beginning of calendar year 2000, the Virginia Fire Relief Association had about $2.7 million in assets, while Fairmont Police, the next smallest paid plan, had about $7.1 million in assets. On that same date, 22 volunteer fire relief associations had assets equal to or greater than Virginia Fire. Three volunteer fire plans, Eden Prairie ($9.5 million), Minnetonka ($9.0 million), and Bloomington ($110.3 million), had more assets than Fairmont Police.

Later sections of this memo provide a preliminary overview of recent performance of public pension funds with more than $10 million in assets. These are the statewide plan funds (the assets of the MSRS plans, the Public Employees Retirement Association (PERA) plans, and the Teachers Retirement Association (TRA) plan), and the large local non-volunteer fire plans: the first class city teacher plans, the Minneapolis Employees Retirement Fund (MERF), the Minneapolis Fire Relief Association (MFRA), and the Minneapolis Police Relief Association (MPRA). The Bloomington Fire Relief Association, a volunteer fire plan, is again included because of its large asset base.

In part, this review is preliminary because of data issues. For several funds, there are inconsistencies between total portfolio returns stated by these funds and the total portfolio returns computed for these funds by the Office of the State Auditor (OSA). (The total portfolio returns computed by the State

Auditor, which appear in Investment Disclosure reports, cover calendar years through 2000.) In some cases the differences between OSA-computed pension fund returns and the returns computed by the pension fund administrators or their consultants are material, leading us to question the total portfolio return data set. Asset class information is more problematic. Some asset class returns are missing, and a few funds did not provide asset class return information for the typical groupings. We requested returns for a typical breakdown: cash, bonds, domestic stock, and if applicable, foreign stock, and alternative assets. A few funds sent returns that combined cash and bonds into a single class. If these returns are noticeably below those provided by the bond market for the period under study, it is not possible for us or for the fund administrators to determine if this is a performance problem. The low return could be due to the presence of cash, which usually has a lower return than bonds. The funds that provided combined "cash-bond" returns also mixed the domestic and foreign stock categories. Again, if the pension fund has any meaningful exposure to foreign stock markets, it is not possible to compare that equity return to any standard domestic stock benchmark and draw meaningful conclusions. Given some missing asset class data, questions about the quality of the data from some funds that did report, and the tendency for some funds to combine asset classes, any conclusions drawn from the provided numbers must be considered tentative.

We must rely on the pension fund-reported asset class returns because the OSA does not provide an alternative source for asset class returns, at least not consistently. Large funds (those with more than $10 million in assets) are required by law to provide asset class *or* asset manager data to the State Auditor. Several funds (MFRA, MPRA, Bloomington Fire, and the DTRFA) report asset manager data rather than asset class data. Thus, asset class returns are not available in OSA reports for several of these large funds.

Larger Volunteer Fire Plans Investment Performance

The volunteer fire information provided here is based on information from Minnesota Public Pension Plans Investment Disclosure Reports, by the Office of the State Auditor. The most recent report covers calendar year 2000.

Table 1 indicates the total portfolio returns earned by the larger volunteer fire relief associations for calendar years 1997 through 2000, and compares those results with that obtainable from three other portfolios, which we refer to as benchmarks. The first benchmark is the SBI Combined Fund return, the returns SBI earned while managing MSRS, PERA, and Teacher Retirement Association (TRA) assets. Comparing the relief association results to the State Board of Investment (SBI) Combined Fund result indicates whether the relief association did as well during this investment period as the SBI. The second benchmark is the SBI Supplemental Fund Income Share Account returns. Described more fully below, the Income Share Account is similar to a mutual fund, and volunteer fire relief associations are permitted under law to invest in any of several Supplemental Fund investments, in addition to all other cash, bond, stock, mutual fund and other investments authorized for these associations. Comparison to the Income Share returns indicates whether the associations would be better off simply buying into the Income Share Account and forgoing other investments. The final benchmark is a passively managed portfolio (index fund portfolio) containing 60 percent domestic stock and 40 percent bonds. Comparison to the results of that portfolio indicate whether the relief association would have been better off indexing, and forgoing all efforts to beat the markets using active management.

All of the volunteer fire relief associations that appear in Table 1 had assets (as of December 31, 2000) which were comparable to or greater than the assets of the Virginia Fire relief association, the smallest of the remaining local police and paid fire plans. Twenty-two volunteer fire plans appear in the table, Volunteer fire defined contribution plans are noted in the table with "DC" following the name. Although a plan may be a defined contribution plan, volunteer fire pension law does not allow members to individually direct their accounts. Rather, the relief association board remains responsible for selecting the asset mix of the fund and the investment managers. The relief association members each have an account, which is a share of the value of the special fund. Since the board remains responsible for investing the relief association's special fund, it is appropriate to study the investment performance the board achieves, even with defined contribution volunteer fire plans.

Table 1
Larger Volunteer Fire Plan Investment Performance Results
Calendar Years 1997-2000

Relief Association	Assets 1/1/97	Asset Allocation 12/31/00: Stocks	Bonds	cash	other	Rate of Return: 1997	1998	1999	2000	4-Year Annualized Rates of Return: Actual	60/40% Stock/ Bond	SBI Comb. Fund	SBI Income Share
Anoka-Champlin (DC)	$2,760,799	58.0%	14.0%	27.0%	1.0%	13.4%	17.2%	18.6%	-8.3%	9.6%	12.24%	12.4%	12.8%
Apple Valley	$1,956,281	72.0%	17.0%	11.0%	0.0%	15.6%	6.2%	16.1%	-5.1%	7.9%	12.24%	12.4%	12.8%
Bloomington Fire	$74,903,000	73.9%	21.1%	5.0%	0.0%	19.7%	13.8%	13.2%	-3.9%	10.4%	12.24%	12.4%	12.8%
Brooklyn Center	$2,681,668	52.0%	31.0%	9.0%	8.0%	10.4%	7.2%	16.6%	-0.2%	8.3%	12.24%	12.4%	12.8%
Brooklyn Park (DC)	$4,412,707	71.0%	28.0%	1.0%	0.0%	9.0%	18.6%	16.5%	-4.7%	9.1%	12.24%	12.4%	12.8%
Coon Rapids (DC)	$2,656,838	56.0%	41.0%	3.0%	0.0%	15.4%	9.1%	3.5%	6.6%	8.5%	12.24%	12.4%	12.8%
Eagan (DC)	$2,679,140	83.0%	4.0%	13.0%	0.0%	12.0%	18.2%	16.8%	-13.6%	7.5%	12.24%	12.4%	12.8%
Eden Prairie	$5,116,201	73.0%	18.0%	7.0%	2.0%	18.8%	17.6%	14.0%	2.8%	13.1%	12.24%	12.4%	12.8%
Edina (DC)	$4,840,563	58.0%	37.0%	5.0%	0.0%	13.0%	12.5%	10.3%	-2.7%	10.5%	12.24%	12.4%	12.8%
Golden Valley	$2,367,964	75.0%	21.0%	4.0%	0.0%	27.0%	20.0%	18.5%	-6.0%	14.2%	12.24%	12.4%	12.8%
Lake Johanna	$2,902,274	68.0%	23.0%	7.0%	2.0%	17.4%	9.6%	14.1%	0.6%	10.2%	12.24%	12.4%	12.8%
Lakeville	$2,214,683	38.0%	61.0%	1.0%	0.0%	19.1%	17.3%	8.6%	0.2%	11.1%	12.24%	12.4%	12.8%
Maple Grove (DC)	$2,066,137	68.0%	27.0%	5.0%	0.0%	15.3%	11.3%	14.3%	-3.9%	9.0%	12.24%	12.4%	12.8%
Maplewood	$2,731,157	70.0%	26.0%	4.0%	0.0%	11.0%	18.0%	20.7%	-8.8%	9.6%	12.24%	12.4%	12.8%
Minnetonka	$5,858,368	60.0%	37.0%	3.0%	0.0%	18.8%	16.3%	13.4%	1.9%	12.4%	12.24%	12.4%	12.8%
Mound	$2,106,099	58.0%	36.0%	3.0%	3.0%	17.3%	9.0%	14.2%	-1.6%	9.5%	12.24%	12.4%	12.8%
Plymouth	$2,398,302	16.0%	53.0%	31.0%	0.0%	13.9%	14.4%	-0.1%	9.2%	9.2%	12.24%	12.4%	12.8%
Roseville	$4,369,149	64.0%	34.0%	2.0%	0.0%	16.6%	16.9%	14.5%	-4.2%	13.1%	12.24%	12.4%	12.8%
Spring Lake Park	$4,217,941	59.0%	35.0%	6.0%	0.0%	19.8%	16.1%	13.8%	-1.4%	11.8%	12.24%	12.4%	12.8%
West Metro (DC)	$2,407,662	64.0%	8.0%	26.0%	0.0%	–	–	20.9%	-11.1%	9.2%	12.24%	12.4%	12.8%
White Bear Lake	$3,423,152	58.0%	27.0%	8.0%	7.0%	16.0%	9.6%	10.6%	-0.9%	8.6%	12.24%	12.4%	12.8%
Woodbury	$1,884,488	73.0%	19.0%	8.0%	0.0%	24.3%	18.8%	17.7%	-6.1%	13.0%	12.24%	12.4%	12.8%
State Board of Investment (Combined Fund)		60.9%	29.4%	1.9%	7.8%								

Note: (DC) indicates defined contribution plans

Relief Association	Potential Asset Value, Assuming: Reported Relief Assn. Returns	60/40 Asset Mix and Index Returns	SBI Combined Fund Returns	SBI Income Share Returns	Gain or Loss Relative to: 60/40 Asset Mix and Index Returns	SBI Combined Fund Returns	SBI Income Share Returns
Anoka-Champlin (DC)	$3,983,612	$4,381,526	$4,406,564	$4,469,626	-$397,915	-$422,952	-$486,014
Apple Valley	$2,651,655	$3,104,716	$3,122,457	$3,167,143	-$453,061	-$470,802	-$515,488
Bloomington Fire	$111,269,338	$118,874,812	$119,554,095	$121,265,039	-$7,605,474	-$8,284,757	-$9,995,701
Brooklyn Center	$3,689,086	$4,255,941	$4,280,261	$4,341,516	-$566,855	-$591,175	-$652,430
Brooklyn Park (DC)	$6,251,786	$7,003,187	$7,043,205	$7,144,001	-$751,401	-$791,419	-$892,215
Coon Rapids (DC)	$3,682,002	$4,216,535	$4,240,629	$4,301,317	-$534,533	-$558,627	-$619,315
Eagan (DC)	$3,577,909	$4,251,929	$4,276,226	$4,337,423	-$674,021	-$698,317	-$759,514
Eden Prairie	$8,371,399	$8,119,667	$8,166,065	$8,282,930	$251,731	$205,333	$88,468
Edina (DC)	$7,216,805	$7,682,216	$7,726,114	$7,836,683	-$465,411	-$509,309	-$619,878
Golden Valley	$4,027,537	$3,758,077	$3,779,552	$3,833,641	$269,459	$247,985	$193,895
Lake Johanna	$4,280,207	$4,606,054	$4,632,374	$4,698,669	-$325,847	-$352,167	-$418,461
Lakeville	$3,374,177	$3,514,813	$3,534,897	$3,585,486	-$140,636	-$160,721	-$211,309
Maple Grove (DC)	$2,916,521	$3,279,063	$3,297,800	$3,344,995	-$362,542	-$381,279	-$428,474
Maplewood	$3,940,841	$4,334,483	$4,359,251	$4,421,637	-$393,642	-$418,411	-$480,796
Minnetonka	$9,350,652	$9,297,523	$9,350,652	$9,484,470	$53,129	$0	-$133,818
Mound	$3,027,856	$3,342,485	$3,361,584	$3,409,692	-$314,628	-$333,728	-$381,836
Plymouth	$3,410,314	$3,806,225	$3,827,975	$3,882,758	-$395,911	-$417,661	-$472,443
Roseville	$7,149,033	$6,934,058	$6,973,681	$7,073,482	$214,974	$175,351	$75,551
Spring Lake Park	$6,589,731	$6,694,084	$6,732,335	$6,828,682	-$104,352	-$142,604	-$238,951
West Metro (DC)	$3,423,624	$3,821,080	$3,842,915	$3,897,911	-$397,456	-$419,291	-$474,287
White Bear Lake	$4,761,519	$5,432,714	$5,463,758	$5,541,950	-$671,195	-$702,239	-$780,431
Woodbury	$3,072,608	$2,990,777	$3,007,867	$3,050,913	$81,831	$64,741	$21,695
				total net gain or loss:	-$13,683,755	-$14,962,049	-$18,181,751

<u>Description of Table 1</u>

1. <u>Assets</u>. The "Assets 1/1/97" column indicates the relief association assets as of the start of calendar year 1997. This information is used in later computations, which considers the asset growth that follows from the actual rates of return achieved by the relief association compared to the grow possible from investment by the SBI Combined Fund, the SBI Income Share Account, and an index fund approach where 60 percent of the portfolio is assumed to be indexed to the domestic stock market and 40 percent is indexed to the investment grade bond market. In terms of assets, the largest volunteer fire relief association by far is Bloomington Fire, with $74.9 million in assets on January 1, 1997. The other relief association needing comment at this time is West Metro. This association did not exist on January 1, 1997. It was formed a few years later by the merger of the Crystal and New

Hope relief associations. The 1997 asset value for West Metro appearing in the table was created by adding together the Crystal and New Hope asset values reported for January 1, 1997.

2. Asset Allocation 12/31/00. The next columns show the asset mix of these pension funds as of December 31, 2000, as presented in the most recent State Auditor investment disclosure report. The State Auditor reports do not separate domestic stock from foreign stock, lumping both into a combined "stock" category. We do not know from the report which relief associations include foreign stock in their total portfolios. It would be preferable to have two separate stock categories, since the foreign and domestic stock markets do not move in lockstep. Typical asset class benchmarks for a domestic stock portfolio are not directly applicable to a portfolio of foreign stock, or to a portfolio that mixes foreign and domestic stock. Also shown for comparison is the SBI Combined Funds asset mix. To be consistent with the State Auditor presentations, we combined SBI's domestic and foreign stock into a single category. The SBI Combined Fund is the combination of the SBI Basic Fund (which collects and invests the assets of active members in the MSRS, PERA, and TRA plans) and the SBI Post Fund. Typically, public pension funds keep 60 to 70 percent of their assets, and sometimes more, in various forms of equity investments. SBI is in that range, with 60.9 percent of its assets in stock (a mix of domestic and foreign) and another 7.8 percent in "other" assets. For SBI, these alternative assets are mostly other equity investments: limited partnerships (real estate and oil/gas), and venture capital (private equity). Nearly all of these alternative assets are held in the SBI Basic Fund. For the volunteer fire funds, most of the funds had equity portfolios approaching 60 percent of the total portfolio, sometimes considerably more. The exceptions on the low side are Brooklyn Center (with 52 percent of its assets in equities), Lakeville (with only 38 percent equity), and Plymouth (with only 16 percent equity). Regarding remaining asset classes, we note that these volunteer fire funds typically hold a larger percent of the portfolio in cash than is typical of larger professionally managed funds. The accepted norm is to hold minimal cash, a few percent at most, since the long-term return to cash is lower than any other asset class. In contrast, many of the volunteer fire funds had high cash positions. The highest are Anoka-Champlin with 27 percent cash, Plymouth with 31 percent, and West Metro with 26 percent. These high cash positions mean that one or more other asset classes, where the expected return is higher, must have an unusually low allocation. Anoka-Champlin, for instance, had nearly twice as much cash as bonds, while West Metro had a cash portfolio three times as large as its bond holdings. If these asset mixes on December 31, 2000, are indicative of the long-term asset mix of these pension funds, rather than some transitional effect, the mix will lower the long-term return to these pension funds.

3. Rate of Return. The next columns show the rates of return actually earned by these associations for calendar years 1997 through 2000. For the first three years all returns (except Plymouth's 1999 return) are positive, reflecting the good investment markets in those years. In 2000, most associations had negative returns, reflecting the trouble in domestic and international equity markets that began in that year.

4. Four-Year Annualized Rates of Return. These columns show four-year annualized rates of return or growth rates, which summarize the previous rate of return information. For example, Anoka-Champlin returns from 1997 through 2000 were 13.4 percent, 17.2 percent, 18.6 percent, and negative 8.3 percent. This is mathematically equivalent to (would provide the same growth as) the consistent 9.6 percent return each year shown for that association as its four-year annualized return. For comparison, we have included in the four-year annualized return columns the annualized returns for three reasonable benchmark portfolios. The first is the annualized return achievable by buying a mix of two index funds, where 60 percent of the portfolio is invested in a stock index fund tracking the domestic stock market as a whole (a Wilshire 5000 index fund) and 40 percent is invested in an index bond portfolio tracking the investment grade domestic bond market (a Lehman Aggregate index fund). The second benchmark is the four-year return to the SBI Combined Fund. This provides an indication of the return that could have been earned if SBI had invested the assets of these associations during this period, investing the money in the same investments that SBI uses to invest assets of the MSRS, PERA, and TRA plans. Since SBI invests a portion of these assets in foreign stock, and also devotes a portion of the assets to alternative or "other" assets, this comparison may be of interest for volunteer fire funds which also include those asset classes in its portfolios. The final benchmark is the return to the SBI Income Share Account, which is one of the investment options offered through the SBI Supplemental Funds. If the relief association's actual return is less than that of the Income Share Account, the association would have been better off using the Income Share account as its sole investment vehicle. Under current law, volunteer fire relief associations are permitted to invest all or part of their assets in investments offered under the SBI Supplemental Funds. The Supplemental Fund also serves as an investment vehicle for the MSRS deferred compensation plan, and members of the MSRS Unclassified Plan (which includes many legislators

and legislative staff) have their retirement accounts invested in one or more of the SBI Supplemental Funds. Investments offered through the Supplemental Fund include a money market fund, a fixed interest fund offering guaranteed investment contracts (GICs), a bond fund, a foreign stock fund, a domestic stock index fund, an actively managed stock fund (the Growth Share Account), and the Income Share Account, which is a balanced portfolio of common stock, bonds, and cash. According to SBI reports, the long-term asset mix of the Income Share Account is 60 percent domestic stock, 35 percent bonds, and five percent cash, which is not an unreasonable asset mix for a pension fund. Over the long term, the Income Share Account return should be similar to that of the 60 percent stock/40 percent bond index portfolio previously described. It might drag behind the index fund portfolio slightly due to the cash allocation, unless managers succeed in beating the stock or bond index in those portions of the portfolio.

Review of the four-year returns in the table indicates that only a small minority of the volunteer fire pension funds included in the table provided returns comparable to any of the benchmarks. Only five out of 22 volunteer fire pension funds (23 percent of the pension funds) had returns equal to or higher than the 60 percent stock/40 percent bond index portfolio. This indicates that for many of the pension fund boards, their effort to manage the pension fund assets caused a loss of value to the pension fund compared to readily available alternatives. The administrators would have been better off selecting a 60 percent stock/40 percent bond mix and indexing both portions rather than making any effort to beat the markets using active managers. Similarly, only four out of 22 (18 percent of the pension funds) exceeded the SBI Combined Fund return, while one, Minnetonka, matched it. Regarding the comparison to the Income Share Account, again only four out of 22 pension funds provided a higher return.

While the above results suggest weak investment performance for these larger volunteer fire funds as a whole, we have limited ability to clearly identify the immediate causes of the relatively low returns. A study of asset mix over time may provide some answers, by indicating low allocation to equities, failure to periodically rebalance the portfolio, or market timing (shifting assets between asset classes in an effort to correctly guess the next hot sector). Market timing is almost never successful over the long term. However, studying asset mix over time would leave unanswered questions. A key part of successful investing is capturing the return offered by the various asset classes in which the pension fund invests. To measure success in that area requires asset class returns. However, that information is generally not available for these funds. Under current investment performance reporting law (Minnesota Statutes, Section 356.219), investment manager or asset class data are not reported to the State Auditor for any pension fund with less than $10 million in assets. The only fund in this group with assets of $10 million or more is Bloomington Fire.

Given the lack of asset class returns for volunteer fire funds, in this memo we limit comment to a few observations based on the four-year annualized returns and the December 31, 2000, asset mix. If we assume that the December 31, 2000, asset mix information is a fair reflection of the asset mix used by these funds over the longer term, few of these associations have the returns one would expect given the portion of the portfolio they exposed to the stock market. Anoka-Champlin's four-year return was 9.6 percent, compared to a 12.24 percent return for the 60/40 index fund portfolio. At the end of calendar 2000, Anoka-Champlin had 58 percent of its assets in stock, very close to the 60 percent stock allocation in the index portfolio. The relief association return, however, is significantly lower than the stock/bond index fund approach. The high cash position may be part of the reason for the drag on return. Underperformance in the stock and bond markets may also be a factor, but that is not knowable without asset class returns. Apple Valley has a high stock position, 72 percent of its portfolio, but a low return for the four-year period, only 7.9 percent. Comparison to the index portfolio indicates that a considerably higher return, 12.24 percent, was available while only exposing 60 percent of assets to the stock market. While a high cash position may have been a factor in Apple Valley's relatively low return, underperformance in the stock market seems likely. Other funds with returns lower than expected given the December 31, 2000, asset allocation are Brooklyn Center, Brooklyn Park, Coon Rapids, Eagan, Lake Johanna, Maple Grove, Maplewood, Mound, West Metro, White Bear Lake, and Bloomington Fire.

5. Potential Asset Value. So far, the table has compared rates of return earned by the volunteer fire relief associations with those of the three benchmarks. The remainder of the table shows dollar impacts of these rate of return differences. The columns to the right of the four-year annualized return columns show potential asset values. The first column in that group shows the asset values that result from taking the January 1, 1997, assets of each relief association and permitting that amount grow at the rates of return earned by the applicable relief association during the 1997 through 2000 period. The next column shows the assets that would have occurred if the association had used

the index approach, or otherwise matched that return. Similarly, the next column shows the assets that would have been available if the association had matched the SBI Combined Fund returns, and the final column in this grouping shows the assets that result from matching the SBI Income Share returns.

6. Gain or Loss. The final columns, the gain or loss columns, show the differences between the columns just discussed. Consider the first relief association in the table, Anoka-Champlin. With a 9.6 annualized four-year return, this association earned considerably lower returns for the four-year period than the index portfolio, or the SBI Combined Fund, or the SBI Income Share Account, which all had four-year annualized returns in excess of 12.2 percent. The lower returns of the relief association make a noticeable difference in its asset value. The final columns of the table indicate that this association would have had an additional $397,915 in assets if it had used the 60/40 index approach or otherwise matched those returns, or an additional $422,952 if it had matched the SBI Combined Fund returns, or an additional $486,014 if it had invested all its assets in the SBI Income Share Account. Results for the other relief associations are as shown in the table. For the group as a whole, the group underperformed the 60/40 index fund by $13.7 million dollars, underperformed the SBI Combined Fund by $15 million, and underperformed the SBI Income Share Account by $18.2 million. Approximately half of the underperformance in dollar terms is due to Bloomington Fire, resulting from its very large asset base relative to the other funds in this group. Like most of the other funds in this table, it had lower returns than all three of the benchmarks.

Pension Funds with Assets in Excess of $10 Million

The information on the statewide plans and other non-volunteer fire plans covered in this memo are from data in LCPR staff files, from OSA Reports, and from a request for data sent to the fund managers to provide rate of return data for the total portfolio and asset classes for calendar years 1998 through 2001. Pension funds or fund administrations reviewed in this section are:

1. The State Board of Investment (SBI), which manages the assets of MSRS, TRA, PERA, and which is also authorized to manage police, paid fire, and volunteer fire plan assets, if those associations choose to use the SBI Supplemental Fund as an investment vehicle;
2. The DTRFA, MTRFA, StPTRFA, which invest the assets of the first class city teacher pension plans;
3. MERF;
4. MFRA and MPRA; and
5. The Bloomington Fire Relief Association, which is the state's largest volunteer fire plan.

In this section we present asset mix information as of the end of calendar year 2001, and where data permit total portfolio returns and asset class returns for calendar years 1998 through 2001. As previously mentioned, much of the information presented here is from a data request we mailed to the fund administrators. We did not sent a request to the SBI Executive Director, Howard Bicker, because we concluded there was sufficient information contained in the SBI quarterly meeting reports. We also had considerable information on the MTRFA from its board meeting materials. We compiled the asset mix and rate of return information from MTRFA meeting materials, and we sent a letter to Ms. Kilberg, the MTRFA Executive Director, requesting her to review the information for accuracy. A sample of the data request that was sent to the funds other than SBI and MTRFA is attached to this memo.

A. Asset Mix.

Table 2 provides asset mix information as of December 31, 2001, the end of the period under study. The first five funds noted in the table (SBI Combined Fund, MERF Combined Fund, DTRFA, MTRFA, and StPTRFA) reflect typical pension fund asset allocations. Cash is kept to a minimum. The investment policy statements for these funds may specify a minimal allocation to cash, a percent or two of the total portfolio, or they may simply indicate that cash holdings should be minimized. Any large pension portfolio will have some cash, which may be called frictional cash, because of incoming employer and employee contributions, retirements, or due to transfer of assets between investment accounts. The objective, though, is to promptly convert cash into other investment assets with higher long-term returns. Bond holdings are approximately 25 to 30 percent of the portfolio. The remainder is generally held in various forms of equity. Domestic stock is the largest component. All have also chosen to make a fairly substantial commitment to foreign stock. The "Other" category may include some venture capital, oil or gas investments, or real estate, through real estate investment trusts (REITS) or other investment forms.

Table 2
Asset Mix
Calendar Year-End 2001

	Cash %	Bonds %	Domestic Stock %	Foreign Stock %	Other %
SBI Combined	2.0	24.4	51.0	15.0	7.6
MERF Combined	1.8	30.4	44.5	18.9	4.3
DTRFA	1.6	28.1	54.9	13.1	2.3
MTRFA	1.4	28.1	54.0	15.0	1.5
StPTRFA	1.9	29.0	51.6	17.4	0.1
Minneapolis Fire	5.3	21.7	51.13	1.7	20.3*
Minneapolis Police	8.2	29.2	55.4	6.5	0.8
Bloomington Fire	1.3	5.6	21.2	0.44	71.44*

**Various mutual funds, some of which are balanced funds, while others are stock or bond mutual funds*

The first five funds above appear to have similar asset mixes. Since asset mix is the dominant determinant of total return, these pension funds could have very similar returns. The rate of return information presented later indicates that was not always the case. The pension funds were not equally successful in capturing the returns offered by the markets in which they invest. Also, within a given broad asset class, some pension funds chose to expose their funds to certain submarkets, or to weight submarkets differently. For example, within domestic equities, some funds may have emphasized small-caps, others were more weighted to large-caps. Some invested within their bond portfolios in below-investment-grade debt (junk bonds) while others do not. SBI has emerging market securities within its foreign stock portfolio, while others may not have any or may have a much lesser emphasis within that subgrouping.

The MPRA asset mix differs from those of the previously mentioned funds. The Minneapolis Police asset mix, at least at this point in time, has a heavy cash weighting, over eight percent of the portfolio. The bond allocation is also relatively high, while the allocation to domestic and foreign stocks is below that of the other paid employee plans included in the table.

The asset mix information sent to us by Bloomington Fire is not meaningful. The cash may be understated, and the bond and stock categories definitely are understated, because of stock and bond assets lumped into the "Other" category. In the "Other" category, Bloomington Fire lists what it calls its internally managed portfolio. This is a collection of investments including mutual funds, some of which are stock funds, others bond funds, and still others are balance funds which include stock and bond investments within a mutual fund account. The stock investments within these stock and balanced mutual funds ought to be included under the applicable domestic or foreign stock category, and similarly with the bonds within these mutual fund and similar investments. For several years, we have expressed reservations about the performance of this pension fund. Past reviews suggest a lack of any systematic approach to investing (including a lack of investment objectives, and no meaningful investment performance review process). The investment results reported in the first section for this relief association indicates continuing problems. Given the way this association presents its asset mix, we suspect that the association is often unaware of its true asset allocation. Given the importance of asset mix in determining returns earned by a pension fund, after careful study the pension fund administrators ought to set a target asset allocation, and the board needs to ensure that its actual asset mix does not stray far from its target mix.

Similarly, the MFRA asset mix as sent to use by that fund administration is misleading. The MFRA listed a large portion of its assets, 20.3 percent, in the "Other" category. A footnote to the MFRA filing indicates that the "Other" category contains balanced funds, equity funds, bond funds, the JMB Group Trust. Most of the assets included in the "Other" category are better included under domestic stocks, foreign stock, or bond categories, as applicable (an exception is the JMB Group Trust, which is a small real estate investment). Lumping some of the MFRA's bond and stock investments into the "Other" category understates the portion of the association's assets actually devoted to stock and bond investments, and creates the same issue noted with Bloomington Fire: the association may not be fully aware of its actual asset mix at any given time.

Table 3 provides asset mix detail of the SBI and MERF funds for active and retired members, and for the combination of the active and retired funds. The table indicates that there is little difference between the active member (Basic Fund) and retired member (Post Fund) SBI asset mixes. The asset mix of the combination of the two (the SBI Combined Fund) is therefore similar to either piece. It follows that the total returns to the SBI Combined Fund will be quite similar to the total return of the Basic or Post Fund. We also know that SBI uses the same investment managers for both funds. Thus, the asset class returns for the Combined Fund are the same as the asset class returns for the Basic or Post Fund (with the exception of the "Other" category, which has some venture capital or similar investments that appear only in the Basic Fund, and some yield-based investments allocated only to the Post Fund.) The situation is the same for MERF's Active and Retired Funds, and the combination of the two, the MERF Combined Fund. Therefore, for the rest of this memo, there is little or no mention of returns for the separate MERF or SBI active member or retired member funds.

Table 3
SBI and MERF Asset Mix
Calendar Year End 2001

	Cash	Bonds	Domestic Stock	Foreign Stock	Other
	%	%	%	%	%
SBI Basic Fund (Active)	1.3	22.1	49.5	15.0	12.1
SBI Post Fund	2.7	26.7	52.4	15.1	3.1
SBI Combined Fund	2.0	24.4	51.0	15.0	7.6
MERF Active	1.9	30.5	44.5	18.9	4.3
MERF Retired Fund	1.8	30.4	44.5	18.9	4.3
MERF Combined	1.8	30.4	44.5	18.9	4.3

Within MERF and SBI, the asset mix convergence between the active and retired funds began in the early 1990s. Before that time, the MERF and SBI funds for active members were invested for growth, while the funds for retirees were invested for yield, because the SBI Post Fund and MERF Retired Fund provided post retirement adjustments based the yield (interest earnings and recognized gains) earned by these retired accounts during the year. Because of the emphasis on yield, the retired funds were heavily weighted in bonds, while the active funds were heavily weighted in stock. Not only was the asset mix different, but different investment managers were used, creating different asset class rates of return in the active and retired accounts. When the mechanism for determining Post Fund adjustments was changed from a yield-based approach to a total return approach, the SBI Post Fund and the MERF Retired Fund were shifted from a heavy bond emphasis to a heavy stock emphasis, and the asset mix for the applicable active member fund and the applicable retired member fund became virtually identical.

B. Total Portfolio Returns.

Table 4 indicates that total portfolio returns for the reporting funds, from 1998 through 2001, plus the four-year annualized returns which summarize this four-year period. When we compared the total portfolio returns as reported by the funds to the returns computed by the State Auditor in applicable Minnesota Public Pensions Plans: Investment Disclosure Reports, we observed discrepancies, some rather large. Given these discrepancies, we used the returns reported in the State Auditor reports when possible. The State Auditor report covering calendar year 2001 is not yet available. Therefore, in all cases the 2001 return used to compute the four-year return is the 2001 return reported to us by the applicable funds. The various discrepancies in returns for earlier years suggest that full confidence should not be placed in the reported 2001 returns.

In the table, on the first line for each fund we report the 1998, 1999, and 2000 return for the fund as computed by the Office of the State Auditor (OSA). On the line below these entries, we note the returns (1998 through 2001) as reported to us by the fund. We computed four-year returns using the three years of data as computed by the Office of the State Auditor and the 2001 return as reported by the pension funds. We are concerned about the size of some of these discrepancies between the OSA computations and the fund-reported results. Differences of one-tenth of one percent are not unreasonable. Differences of that size could easily be due to rounding or some insignificant methodological difference. Amounts larger than that deserve to be explained. They may stem from significant data error, faulty methodology, or disagreements about the value of large, illiquid assets. Rates of return need to be sufficiently accurate to avoid having the pension fund board draw erroneous conclusions. Differences of a few tenths of a percent could cause a board to draw erroneous conclusions. For example, a persistent overstatement of stock returns by a few tenths of one percent over the long term might cause a board erroneously to conclude that its stock portfolio investment approach is succeeding, when actually it is failing and needs to be revised.

Table 4
Total Portfolio Returns
Calendar Years 1998-2001

	1998	1999	2000	2001	4-Year Annualized Return
	%	%	%	%	%
SBI Combined Fund					
As reported by the OSA	16.1	16.5	-2.8	--	
As reported by SBI	16.1	16.5	-2.8	-6.0	5.44
MERF Combined Fund					
As reported by the OSA	15.7	15.5	-1.3	--	
As reported by MERF	15.9	16.1	-1.47	-6.2	5.47
DTRFA					
As reported by the OSA	11.1	29.4	-1.6	--	
As reported by DTRFA	13.0	30.1	-1.5	-4.7	7.75
MTRFA					
As reported by the OSA	14.2	21.5	-6.0	--	
As reported by MTRFA	14.2	21.6	-6.0	-7.7	4.75
StPTRFA					
As reported by the OSA	12.0	13.6	-0.2	--	
As reported by StPTRFA	12.4	13.9	0.1	-1.4	5.80
Minneapolis Fire (MFRA)					
As reported by the OSA	21.9	17.8	-2.70	--	
As reported by MFRA	22.15	18.28	-2.70	-3.30	7.81
Minneapolis Police (MPRA)					
As reported by the OSA	11.4	11.1	-2.0	--	
As reported by MPRA	11.03	11.59	-1.64	-4.13	3.84
Bloomington Fire (BFRA)					
As reported by the OSA	13.8	13.2	-3.9	--	
As reported by BFRA	15.37	11.73	-3.85	-7.84	3.35

Regarding the pension funds listed in the table, we note conflicting estimates for MERF for the three years (1998, 1999, and 2000) for which we have State Auditor computed returns compared to those reported by the fund. The difference for 1999 is relatively large, with the State Auditor indicating a 15.5 percent return while the fund indicates a return over 16 percent. Discrepancies in the DTRFA returns are large, particularly in 1998, with the fund indicating a 13 percent return while the State Auditor computes an 11.1 percent return from the same underlying data. For StPTRFA, the differences are a persistent three-tenths or four-tenths of a percent. For MFRA, the OSA-computed returns are slightly lower than the MFRA-computed returns in 1998 and 1999. The MPRA-computed returns are four-tenths to half of one percent below the OSA-computed returns. The Bloomington Fire plan return differences are very large, well in excess of a full percent in 1998 and 1999.

Regarding the investment performance of the funds in general, we note that all are impact of troubled foreign and domestic stock markets in 2000 and 2001, which hurt pension fund total returns. All funds had negative returns in those two years (using OSA computed results). For the four-year period as a whole, no fund had returns approaching the 8.5 percent long-term return assumed in actuarial work for many of these funds.

Regarding specific funds, assuming information in Table 4 is accurate, SBI and MERF provided virtually identical results, with returns differing by only three one-hundredths of one percent. The MFRA and DTRFA had the highest returns in the group. Rounded to the nearest tenth of a percent, both these pension funds had 7.8 percent four-year returns. The MFRA had a very high 1998 return, and its performance was better than some of the large funds in the bad markets of 2000 and 2001. For DTRFA, the high four-year annualized return is due largely to the 1999 return, a year in which a few DTRFA stock managers provided exceptional returns. This created a calendar year total portfolio return far in excess of the other pension funds. In 1998, DTRFA had the lowest return in the group, but the 1999 return more than reversed that impact. In 2000 and 2001, the DTRFA succeeded in not losing as much as some of the other pension funds, which again helped its relative performance.

For many years, Commission staff has commented on MTRFA performance problems. Historically, the MTRFA has had problems in its investment grade bond portfolios, junk bond portfolios, and stock portfolios. The fund also attempted to market time, and that may still be a factor. For the 1998-2001 period, the MTRFA had one good year out of four, calendar year 1999, when the MTRFA's total portfolio return was considerably above the state funds (SBI Combined Fund). For the other years, MTRFA's 1998 return was nearly two percent below the SBI Combined Fund return, and in calendar year 2000, the MTRFA had a lower return (negative 6 percent) than any other fund in the table. In 2001, the MTRFA return (negative 7.7 percent) was lower than any fund except Bloomington Fire. Despite a 1999 return that was five percent higher than SBI's return (21.5 percent compared to SBI's 16.5 percent return) over longer periods the MTRFA continued to lose ground, with only a 4.75 percent four-year average return.

The StPTRFA had a higher four-year return than SBI, due largely to performance in down markets. The 1998 and 1999 StPTRFA returns were modest and well below SBI, but the StPTRFA did considerably better in the down markets of 2000 and 2001. StPTRFA's negative 1.4 percent calendar year 2001 return (as reported by the fund) was noticeably above all other reporting funds.

The MPRA is another fund with a considerable history of performance problems. Its 1998 return was lower than any fund except the DTRFA, and its 1999 return was considerably below all other funds. Minneapolis Police did succeed in having returns in 2000 and 2001 which were less negative than SBI and several of the other funds. However, the resulting four-year return is low, only 3.84 percent, lower than any reporting fund other than Bloomington Fire. Hopefully, the improved 2000 and 2001 relative performance is a sign of positive change. It may, however, be little more than a reflection of a high cash and bond position, which is suggested by the asset mix information presented earlier. If the fund maintains a high cash position, that will create a performance drag when markets return to conditions that are more normal.

Bloomington Fire was not positioned to take full advantage of the good markets of 1998 and 1999, and it was hammered in the bad markets of 2000 and 2001. The Bloomington Fire 1998 and 1999 returns were modest compared to the SBI or MERF returns, while in 2000 Bloomington Fire had a more negative return than any fund except the MTRFA, and in 2001 the fund had the lowest return of all, negative 7.8 percent. The four-year return is 3.35 percent, the lowest in the group. When we last examined investment policy statements in 1998, the Bloomington Fire statement indicated no rate of return objectives beyond attaining a favorable absolute and relative rate of return consistent with the preservation of capital. The performance in the ensuing years fell short of the objectives. The absolute returns were not good, the fund did not do well relative to other large funds, and with the exception of the MTRFA, the relief association did not preserve capital as well as the other funds in the bad markets of 2000 and 2001.

C. <u>Further Comments on Rate of Return Discrepancies</u>.

We requested rates of return from the funds which are time weighted, net of fees and related investment costs. Similarly, the OSA reports indicate that the OSA uses the raw data it receives from the reporting pension funds (more than 700 of them) to compute time weighted rates of return net of costs and fees. The OSA computed returns and those provided to us by the pension funds should agree, but as noted above, that is often not the case. Discrepancies were large in some cases, and while the returns reported by the funds tend to be higher than those OSA computed, that was not universally true.

Under law (Minnesota Statutes, Section 11A.04, a provision listing the duties of SBI), SBI shall "Establish a formula or formulas to measure (investment) management performance and return on investment. Public pension funds in the state shall utilize the formula or formulas developed by the state board." Thus, in theory, all pension funds in the state should be using an identical methodology to compute the investment returns, the method that SBI developed or adopted. That has not occurred, so practice departs from theory. SBI has not provided a detailed statement of the methodology Minnesota public pension funds are to use. SBI uses the specific formulas and methods of whatever investment performance consultant or custodian that SBI has under contract at the time, while the other pension plans use the formulas and methods of the consultant or custodian they retain.

Given this situation, we have relied on the OSA total portfolio return estimates whenever there is a discrepancy. This should provide the most consistent comparisons. It is our understanding that the OSA used SBI's consultant, Richards and Tierney, to set up its rate of return computation programs. The OSA results should be fully consistent with that used by SBI, and its application to the raw data from the other funds should provide the most consistent data set, by eliminating the impact of different methodologies.

The results computed by OSA and the results computed by the pension plan's own consultant or custodian *ought* to the same. It may be useful, at some future meeting, to explore why we have conflicting estimates. While there is no SBI-promulgated method, all service providers should be using approaches deemed acceptable by the Association for Investment Management and Research (AIMR), an oversight group that, among other functions, runs the Chartered Financial Analyst (CFA) program. In the last decade, AIMR has made a serious effort to improvement methodology and consistency in the investment performance reporting industry.

D. Investment Performance: Estimation of Gain of Loss Due to Maintaining Pension Funds Separate from SBI.

In the last significant review of public pension fund investment performance by LCPR staff (a staff memo to the Commission dated September 25, 1998), we estimated the dollars gained or lost by not having SBI invest the assets of the larger Minnesota pension funds. Information from a table in that memo is reproduced below. That earlier memo looked at the 1994 through 1997 period. We began with 1994 because SBI had begun providing post retirement adjustments based on rates of return, following the legislative changes that had been made to the SBI Post Fund post retirement adjustment mechanism. Given those changes, SBI revised the Post Fund asset mix by shifting the emphasis from bonds to a heavy stock weighting. At that point, it made sense to use the investment performance of the SBI Combined Fund (the performance that results from combining SBI Basic and Post Fund assets) as a measure of SBI investment performance.

The basic approach used to construct Table 5 has been described in detail earlier in this memo when discussing volunteer fire results. Using the four-year annualized growth rates for the 1994-1997 period, we determined the amount of assets that would be produced given those rates of return and the pension funds' 1994 beginning of year asset values. We then determined what the asset values would be if each fund had matched the SBI Combined Fund returns. During the 1994 through 1997 period, most pension funds had considerably lower returns than the SBI Combined Fund. As a result, they generated considerably fewer assets than would have been the case with SBI investment management. These losses are noted in the table. For the whole group, these losses total $251.4 million, slightly over one-quarter billion dollars. This is a measure of the additional assets that would have been generated if SBI had managed the assets of all these funds, rather than having the separate locally managed funds. The largest contributors to this total loss were MERF, MTRFA, and the MPRA.

Table 5
Gain or Loss Compared to SBI Combined Fund
Calendar Years 1994-1997

Fund Name	4-Year Annualized Return 1994-1997	1994 Assets	Gain or Loss Relative to the SBI Combined Portfolio Given 1994 Assets
	%	$ millions	$ millions
SBI Combined	15.03	18,852.0	–
MERF Total Fund	13.68	967.5	-78.1
DTRFA	13.28	135.5	-14.1
MTRFA	13.19	541.1	-59.2
StPTRFA	14.28	410.6	-18.6
Minneapolis Fire	15.10	177.5	+0.8
Minneapolis Police	10.83	288.9	-69.9
Bloomington Fire	11.45	58.8	-12.2
			-251.4

For the most recent period (1998 through 2001), the differences between SBI's returns and those of most other funds was not as significant as during the earlier period. Several funds had higher returns than SBI, but the MTRFA, MPRA, and Bloomington Fire continued to trail. For the non-SBI group as a whole, there was $4.8 million *more* in the system by not having SBI invest the assets. This is partly attributable to improved performance by a few of these funds, and partly attributable to SBI stumbling a bit in the domestic and foreign stock markets. The results for the 1998 through 2001 period are shown in Table 6.

Table 6
Gain or Loss Compared to SBI Combined Fund
Calendar Years 1998-2001

Fund Name	4-Year Annualized Return 1998-2001	1998 Assets	Gain or Loss Relative to the SBI Combined Portfolio Given 1994 Assets
	%	$ millions	$ millions
SBI Combined	5.44	32,418.8	--
MERF Total Fund	5.47	1,374.1	+1.9
DTRFA	7.75	207.2	+23.2
MTRFA	4.75	833.3	-26.7
StPTRFA	5.80	687.0	+11.7
Minneapolis Fire	7.81	263.7	+30.3
Minneapolis Police	3.85	374.9	-27.3
Bloomington Fire	3.36	88.3	-8.3
			+4.8

The MERF and SBI returns are far more similar than in the earlier period. Rather than a very large loss relative to SBI, MERF has a very modest gain based on the marginally higher MERF annualized returns. MFRA, DTRFA, and StPTRFA also had higher returns than SBI, and therefore show gains in the table. MTRFA, MPRA, and Bloomington Fire continued to have performance problems, leading to significant loss for those funds compared to the results that would have occurred under SBI management. For the group as a whole, there is a modest net gain (+$4.8 million) for the 1998 through 2001 period compared to SBI's returns.

After resolving some data issues, in a subsequent memo LCPR staff can provide a single table summarizing the 1994 through 2001 period. In the meantime, a rough estimate can be obtained by combining the net results from Tables 5 and 6. This could be done for each fund separately or for the total group. For the total group, the approximate loss created by not having SBI manage all of these portfolios is the $251.4 million loss from the first table combined with the $4.8 million gain from the second, for an approximate total of a $246.6 million loss.

E. Asset Class Returns.

Since OSA reports do not provide asset class data for several of the funds, for purposes of the current memo we list the asset class returns as submitted to us by the pension funds. In a future memo, this may be revised.

1. Domestic Stock. Table 7 provides the domestic stock returns. Also included are the returns for two common stock indices, the Wilshire 5000, which measures the return to the entire domestic stock market, and the S&P 500, which is the return earned by 500 of the largest companies. The Wilshire 5000 is a commonly used benchmark for a broadly diversified stock portfolio, containing large-cap, mid-cap, and small-cap stocks in the same percentages as found in the market. The S&P 500 is an appropriate benchmark for a stock portfolio which favors large-cap stocks. The Wilshire 5000 four-year annualized return was 4.9 percent. The comparable S&P 500 return was 5.7 percent for the period, indicating that large-cap stocks had better returns during this period than mid-cap and small-cap stocks.

   The results in the table reflect a decision by several of these pension funds to index a significant portion of their stock portfolios, while the remaining portions may be semi-passively invested or actively invested. As a consequence of the greater use of indexing and related approaches, the returns to many of the pensions fund have improved relative to the index returns, compared to their more distant past performance.

Some pension funds (DTRFA, MERF, and MTRFA), have invested some of their stock portfolio assets with enhanced index managers. The enhanced index manager attempts to beat the index, usually the S&P 500 index, by modest amounts. Rather than investing directly in the stocks that compose the S&P 500, enhanced indexing techniques typically use S&P 500 futures contracts and options to gain exposure to the equity market. Only a portion of the value of the investment is paid at the time of purchase. The remainder is invested in short-term debt instruments until needed to settle the future contracts. Given the nature of the futures market, in general the total return to the futures contracts plus the related debt investments will equal the S&P 500 return if the return on the debt investments equal the London Inter-Bank Offering Rate (LIBOR). The LIBOR rate is the interest rate charged on inter-bank loans. If the pension fund earns a return on the short-term debt investments which exceeds the LIBOR rate, the pension fund should receive a total return on its enhance index investment account which exceeds the S&P 500 return.

For decades, active stock managers have tried to select stocks to beat the stock indices, having little success. The strategy taken by these enhanced index managers is an effort to transform the game. Rather than trying to beat the stock market to provide a return above the stock index, success now depends upon beating short-term debt market with cash/short-term debt investments prior to closing the stock market futures contracts.

For several years, DTRFA, MERF, and MTRFA had some success with these approaches, and that is reflected in the returns reported below. However, in the most recent months of 2002, too recent to be included in the table, MERF and MTRFA suffered considerable losses due to enhanced indexing. They fired their enhanced index manager, Advanced Investment Management (AIM), after it was discovered that the firm was violating the investment guidelines placed on the accounts by the two pension funds, and AIM may have violated state and federal law. A MERF press release indicates that AIM used techniques which highly leveraged the portfolio. Leverage adds to gains in a strong market, but will magnify losses in a downmarket. In MERF's case, losses due specifically to contract violations (actions AIM took in violation of the investment guidelines on the account), were estimated at $27 million. MTRFA also had significant losses. These losses will impact calendar year 2002 results and are thus not captured in the returns show in the following table, which ends with calendar year 2001.

Table 7
Domestic Stock Returns
Calendar Years 1998-2001

	1998	1999	2000	2001	4-Year Annualized
	%	%	%	%	%
S&P 500	28.9	21.1	-9.1	-11.9	5.7
Wilshire 5000	23.4	23.6	-10.9	-11.0	4.9
SBI Combined Fund	23.5	21.0	-11.0	-11.1	4.28
MERF Combined Fund	23.4	20.9	-5.2	-11.2	5.86
DTRFA	18.2	46.0	-5.8	-12.4	9.24
MTRFA	22.0	26.1	-11.2	-12.8	4.47
StPTRFA	14.7	17.0	-3.6	-3.4	5.73
Minneapolis Fire*	34.1	29.6	-5.1	-6.2	11.5
Minneapolis Police*	21.19	23.17	-6.9	-10.29	5.67
Bloomington Fire*	18.9	18.51	-6.18	-12.06	3.84

**Return to combined domestic and foreign stock portfolio*

Typically, domestic stock is the largest asset class in a pension fund portfolio, generally accounting for 50 percent or more of total portfolio assets. Success in this market strongly influences the total portfolio return. SBI was far from a stellar stock market performer during this period. In fact, it was one of the weaker performers, with a 4.28 percent four-year return, considerably below either of the common indices. During this period, SBI changed its target stock benchmark from the Wilshire 5000 to a custom index, which it calls the Wilshire 5000 Investible. In large part, this is the Wilshire 5000 index with REITs and microcap stocks removed, under an argument that REITs should be considered separately as real estate rather than stock, and that it is not practical for a large pension fund to invest in thinly traded stocks of small companies, the microcaps. Although SBI relies heavily on indexing and semi-passive investing, SBI had some trouble during this period tracking either the Wilshire 5000 or its custom Wilshire 5000 Investible.

Regarding other funds, the MTRFA had marginally higher stock returns than SBI during this period. MERF did well, with a return comparable to the S&P 500 index. MERF relies heavily on indexing, including enhanced indexing. Based on the stock return data supplied by the funds, DTRFA and the MFRA had by far the highest four-year average returns. The DTRFA result is due to calendar year 1999, when the fund had an exceptionally high stock return, 46.0 percent. The MFRA stock returns are uniformly high and more consistent than those of DTRFA. The MFRA managed to beat the indices by wide margins in the good years, 1998 and 1999, while losing far less than the indices in the bad years, 2000 and 2001. The returns for both of these funds suggest that the stock portfolios are considerably less diversified than the market as a whole. If they were broadly diversified to match the market, the returns would be closer to the Wilshire 5000 results.

MFRA, MPRA, and Bloomington Fire stock returns need further comment. The estimates provided here may be somewhat inaccurate, and some caution should be used in comparing these returns to those of the other funds or to the indices. The returns provided by these three pension funds were computed by their consultant, Standard Valuations, Inc. The pension funds indicate in their filing (or in later telephone conversation) that the returns combine domestic and foreign stocks. The computed results depend on how well the fund did in the domestic market, how well it did in foreign markets, and the percentage of this blended portfolio that was devoted to domestic rather than foreign stock. If there is any significant portion of foreign stock in the portfolio, it is misleading to compare the result to a domestic stock index, or to the results for another pension fund whose return was computed solely on domestic stock. The MPRA may have a fair allocation to foreign stock, while the MFRA and Bloomington Fire foreign stock percentages may be immaterial, but we cannot say for sure based on data from a single date. According to the asset mix table presented earlier, 6.5 percent of the MPRA total portfolio was devoted to foreign stock as of the end of calendar year 2001. On that same date, Bloomington Fire had less than one percent of its assets in foreign stock (0.44 percent). The MFRA had a slightly higher percentage, 1.7 percent. When contacted by phone, the MFRA claimed it has a long-standing policy of not investing in foreign stock, and suggested that the foreign stock percentage indicated in its filing probably represents foreign companies whose stock trades on United States stock exchanges.

Another issue with the reported MFRA and Bloomington domestic stock returns is that the returns may not cover all of the domestic stock assets. It is possible that these returns do not incorporate the domestic stock held in mutual funds and blended mutual fund investments. In reporting its asset mix, the MFRA claimed to have 20.3 percent of its assets in a miscellaneous "Other" category, which it identifies as containing equity mutual funds and balanced mutual funds combining stock and bond investments. In the Bloomington case, the fund reported 71.44 percent of its assets in the "Other" category, which it further indicated to include considerable stock mutual fund assets and balanced fund assets. If the reported domestic stock returns for these two association do incorporate all their stock investments, then these associations are being inconsistent. The groupings used to compute the returns are not consistent with the way the associations are reporting their asset mix.

2. Foreign Stock. The foreign stock returns reported to us by the pension fund administrators are shown in Table 8. Along with these returns, we provide results for the Europe, Australia, and Far East (EAFE) index, a commonly used foreign stock return index. We also provide an emerging markets index, since SBI and possibly a few other pension funds have some exposure to these under-developed markets in their portfolios. The emerging markets are subject to extreme swings. Despite a 66.4 percent return in 1999, the emerging market index had a *negative* four-year return. For the four-year period, the EAFE index is barely positive. Comparing these two foreign stock indices to the domestic stock indices in the previous table indicates that the returns

in foreign markets were lower for this four-year period than the domestic markets. Exposure to the foreign markets during this period was likely to lower the total portfolio's return, compared to an all-domestic stock portfolio, unless the pension fund's foreign stock portfolio succeeded in beating the average return in the foreign markets by a wide margin.

Table 8
Foreign Stock Returns
Calendar Years 1998-2001

	1998 %	1999 %	2000 %	2001 %	4-Year Annualized %
EAFE*	20.0	27.0	-14.2	-21.4	0.7
Emerging Markets	-25.3	66.4	-30.6	-2.6	-4.3
SBI Combined Fund	11.4	33.2	-14.3	-19.8	0.49
MERF Combined Fund	15.3	34.2	-16.5	-20.0	0.83
DTRFA	11.1	44.1	-17.3	-19.3	1.67
MTRFA	9.3	42.4	-11.7	-16.2	3.59
StPTRFA	9.2	31.7	-4.4	-11.6	5.00

* *Morgan Stanley Capital International index of Europe, Australia, and the Far East (EAFE)*

Unlike the domestic markets, where beating domestic stock indices is a fairly rare event, pension funds do have some success in beating EAFE. Part of that success stems from foreign stock managers who successfully predict which countries to avoid, due to market instability or political turmoil within the given country. SBI and MERF produced returns for the four-year period similar to EAFE. A few of the teacher plans beat EAFE, largely due to very high 1999 returns, although the StPTRFA also did comparatively well in the down markets of 2000 and 2001.

The blended returns provided by MFRA, MPRA, and Bloomington Fire are not listed here, since they were reported above with domestic stocks.

3. <u>Bonds</u>. The bond returns submitted by the pension funds appear in Table 9. The index for this market is the Lehman Aggregate Bond Index, which is an index showing the return to the domestic investment-grade bond market. The pension funds should be tracking that index closely. SBI lost ground to the index in 1998, but then beat the index during the next three years to provide a 7.1 percent four-year return, compared to the 6.87 percent return provided by the index. MERF, DTRFA, and StPTRFA also had returns comparable to or slightly above the index.

The MFRA, MPRA, and Bloomington Fire returns appear in the table, but these associations compute returns for cash and bonds combined. This blending causes problems. It is not possible to determine the extent to which these returns reflect a performance problem in bond investing, or simply the presence of cash investments, which usually have a lower return than longer-term bond investments. With a blended return, the MFRA had a return similar to the index, and Bloomington was marginally lower. The MPRA return may reflect a performance problem or simply the impact of cash.

The MTRFA had a bond return noticeably below any other fund. Its return was only 4.19 percent, which is unacceptably low, more than 2.5 percentage points under the index. The MTRFA did not track the investment-grade market at all well. The 1999 return was high, but in 1998, 2000, and 2001, this fund was not close to capturing the return offered by the investment-grade market. The MTRFA, like a few other funds, has junk bonds in its portfolio in an effort to boost returns, a strategy that has not worked well for any of the funds. For the MTRFA, its junk bond exposure is significant, and some of the period under study was not favorable to junk bonds given the uncertainty in the economy and in the very weak stock market. Compounding the problem is that MTRFA's junk bond manager or managers have, at times, not tracked the junk bond market, providing returns considerably lower than expected within that market.

Table 9
Bond Returns
Calendar Years 1998-2001

	1998 %	1999 %	2000 %	2001 %	4-Year Annualized %
Lehman Aggregate Bond Index	8.7	-0.8	11.6	8.4	6.87
SBI Combined Fund	8.3	-0.5	11.7	9.3	7.10
MERF Combined Fund	8.5	0.2	11.2	8.4	6.99
DTRFA	8.7	-1.8	11.8	8.8	6.75
MTRFA	4.4	3.7	7.2	5.8	4.19
StPTRFA	9.2	-1.5	11.6	9.10	6.98
Minneapolis Fire	8.9	-1.2	11.2	8.9	6.85
Minneapolis Police*	7.42	-0.58	10.44	8.56	6.37
Bloomington Fire*	7.96	1.09	10.59	6.72	6.53

**Return to combined bond and cash portfolio*

4. Cash. The cash returns appear in Table 10. As an index for comparison, we provide the 90-Day Treasury Bill returns. Cash returns are not particularly important for any pension fund that limits its cash portfolio to frictional cash. We also note that much of the available return data is misleading, providing little indication of actual cash returns. The main purpose served by this table may be to stimulate questions from Commission members about the various investment activities and strategies used by these pension funds.

Table 10
Cash Returns
Calendar Years 1998-2001

	1998 %	1999 %	2000 %	2001 %	4-Year Annualized %
90-Day Treasury Bill	5.0	4.1	6.1	3.8	4.7
SBI Combined Fund [1]	--	--	--	--	--
MERF Combined Fund [2]	5.6	1.2	13.8	4.1	6.07
DTRFA	5.7	4.7	6.0	4.1	5.12
MTRFA	4.9	4.5	6.8	6.0	5.55
StPTRFA [3]	6.1	10.9	-14.4	-4.7	-1.02

[1] *Cash returns are not provided in SBI reports*
[2] *Cash returns include the impact of derivative trades*
[3] *"Cash" in 2000 and 2001 combines actual cash and "equitized" cash overlay portfolios*

Regarding specific funds, we do not have cash returns for SBI because these do not appear in the SBI quarterly reports. The numbers provided by MERF are shown in the table, but Executive Director Judith Johnson indicated in her response that the cash returns include the impact of "derivative trades." The StPTRFA returns in 1998 and 1999 seem extraordinarily high for cash returns, particularly 1999, but no explanation was provided. That fund's reported 2000 and 2001 cash returns are negative, which would be most unusual, but the fund indicates that these returns combine actual cash investments and "equitized cash overlay portfolios." Perhaps these MERF and StPTRFA returns reflect enhanced stock index strategies referred to earlier. No returns are shown for MFRA, MPRA, or Bloomington, because they reported blended cash/bond returns, discussed above.

Conclusion

In this memo, staff began by providing an investment performance review of the larger volunteer fire plans. There were the plans with assets comparable to or greater than those of the smallest paid local plan fund, the Virginia Fire Relief Association's special fund. We noted general investment performance problems: few funds produced returns comparable to reasonable benchmarks. Low returns create less asset growth through investing. This, in turn, can harm the firefighters by reducing the benefits they might otherwise receive, and it can lead to more demands for contributions from the municipalities and through requests for additional state aids.

It is reasonable to conclude that the situation is worse with the smaller volunteer fire plans, the roughly 680 plans not covered here. The volunteer fire plan boards are composed of volunteer firefighters and municipal officials. These officials are dedicated individuals, and the firefighters are highly capable and are hardworking in providing firefighting services to their communities. However, few boards will be knowledgeable about investing, and few will have a well researched, disciplined approach.

We noted that the volunteer fire plans, over 700 in number, have considerable assets in total, more than some of the smaller local paid fire and police plans, and more than some of the first class city teacher plans. However, because the assets are dispersed over so many small plans, it is not possible to provide the oversight these assets deserve, and it is not possible to achieve consistency or a general level of professionalism in managing these assets.

For the various defined benefit plans providing coverage to paid public employees in this state, we provided an overview of recent total portfolio and asset class results and some tentative findings. There are data issues. It would be helpful to reconcile the total portfolio rate of return data provided by the pension funds with those computed by the OSA. Also, any differences between OSA-computed asset class results (where available) and returns computed by the funds may merit exploring, and it would be useful to have cleaner stock and bonds returns, returns which do not blend different asset classes.

If the Commission wishes to further pursue this general topic, in a future memo staff could provide total portfolio and asset class results with more confidence in the data than we currently have. It may also be useful to provide additional discussion of the investment strategies used by some of these pension funds, including indexing and enhanced indexing. It will also be possible to combine the recent data with past data, providing a long-term view indicating how these portfolios (total portfolio, stock, and bond) have performed since the beginning of the 1990s.

It would also be useful to review more current data to study the condition of the pension plans, hopefully through fiscal year 2002 (data should be available in the next few months). It will also be useful to study differences between the actuarial and market value of the paid employee public pension funds. Funding ratios based on market value indicate the actual current condition of these plans, given the value of the plans' assets. Differences between these ratios and ratios based on actuarial value provide an indication of the impact of the actuarial value methodology.

APPENDIX A

A. Definition of Concepts

1. **Time-Weighted Rate of Return**. A time-weighted rate of return measures the return earned on assets invested for the entire period. By filtering out the effects on return caused by a board's decisions to give additional assets to a manager during a period under study, or a board's decision to withdraw assets from a manager to cover benefit checks or other operating expenses, the time-weighted rate of return procedure removes the impact of events over which the investment manager has no control. For comparisons among investment managers, among funds, or to compare fund or manager performance to returns offered by the market, time-weighted returns are the accepted industry standard. In investment manager presentations, use of time-weighted rates of return rather than other forms of returns are required by Association of Investment Management and Research (AIMR) presentation standards and by the Securities and Exchange Commission (SEC). Minnesota law mandates the use of time-weighted rates of return for public pension fund performance reviews.

   Most individuals familiar with mutual funds have used time-weighted rate of return information, although they may not be aware of it because the returns were not identified by the formal name. Mutual funds commonly report returns to shareholders for the various investment portfolios offered by the mutual fund family. In presenting these returns, the report may include a comment indicating that the returns reflect the growth rate (positive or negative) of a single $1,000 investment made at the start of the period. Any other uniform assumed starting value could have been used, since there would be no impact on the computed return. This is a description of time-weighted returns, although the technical term was not used. Since the returns were computed using the time-weighted methodology, the returns can be compared to the time-weighted returns of any similar investment offering.

2. **Annualized Returns**. To review long-term performance, it is often useful to summarize several years of annual returns by computing multi-year average returns.. The process is called "annualizing." If a fund had a 3.2 percent time-weighted rate of return in the first year, a 22 percent return in the second year, and a 6.5 percent return in the third, it can be shown that this variable three-year stream produces the same asset growth as a constant 10.3 percent return in each year. This 10.3 percent return is the three-year annualized return, summarizing the three-year performance of the fund. Annualized returns can be computed for any time-period and can be compared between funds. Mutual funds commonly report returns for one-, five-, and ten-year periods. The one-year return is the time-weighted return for the most recent year, while the five- and ten-year returns are multi-year, time-weighted annualized returns. Since annualized returns are a form of average returns, we will use the terms "annualized returns" and "average returns" interchangeably in this memo.

3. **Index Returns**. Rates of return can be computed for the stock, cash, bond, and real estate markets, for portions of those markets, or for any asset grouping being followed. The market segment being followed is the index, the return on those assets is the index return. For instance, the Wilshire 5000 is a commonly used stock index. The Wilshire 5000 includes all domestic stocks for which daily prices are available, weighted by market value. The name comes from the company that compiles the index and from the approximate number of companies initially included. At the present time, there are actually over 7,000 stocks incorporated into the Wilshire 5000.

4. **Benchmarks**. Pension plan boards expect a certain level of investment performance from each asset class and from the total portfolio. These performance objectives are often called "benchmarks" and they serve as a target or dividing line between performance deemed acceptable and performance that is not. For stocks, pension boards often use the Wilshire 5000. Long-term stock returns which approximate or exceed the Wilshire 5000 return reflect acceptable performance, while returns below the benchmark suggest a need for further review and possible remedial action. Pension investment administrators typically adopt several benchmarks for use by their fund, one or more indices for each manager, each asset class, and for the total fund. The expectation is that the manager, asset class, and total portfolio performance will equal or exceed the respective benchmark. Indices and average returns for comparable managers or total portfolios are commonly used benchmarks.

B. Indices Used in this Report

As in previous Commission staff summaries of time-weighted rate of return report results, the tables in this memo include indices for comparison purposes. The indices used are those chosen by the pension fund association, as noted in the investment policy statement or other fund document.

The asset class indices that appear most often are:

- 90-Day Treasury Bill Return. The 90-Day Treasury Bill return indicated the returns available on cash equivalent investments.
- Wilshire 5000. The Wilshire 5000 is the return earned on all domestic stocks for which daily price quotes are available.
- S&P 500. The S&P 500 is the stock return earned by the roughly 500 largest traded companies.
- Lehman Brothers Aggregate Bond Index. The Lehman Brothers Aggregate Bond Index is the return earned on all domestic investment grade bonds, treasury and agency securities, and mortgage obligations with maturities greater than one year.

The Wilshire 5000 and the S&P 500 are stock indices. If a pension board concludes that it is not prudent to try to predict which portion of the stock market (large-caps, mid-caps, or small-caps) will provide the best returns in any given year, then a reasonable action is to hold a stock portfolio broadly diversified across these value segments. The stock benchmark which is most appropriate given that investment strategy is the Wilshire 5000, since it is a market-weighted index covering small-cap, mid-cap, and large-cap stocks. The S&P 500 index reflects the return to certain large-cap stocks, a subset of the total stock market, although the companies included in that index do account for about 70 percent of the total stock market value.

Like the Wilshire 5000, which covers the broad stock market, the Lehman Brothers Aggregate Bond Index (generally referred to as the Lehman Aggregate) includes the broadest coverage of debt securities generally consistent with permissible police, paid fire, and volunteer fire funds investment authority laws. The Lehman Aggregate includes all investment-grade bond and mortgage securities. Use of this index is reasonable and conservative since it is consistent with broad diversifying within the investment-grade fixed income market and does not require predicting which portion of the fixed income market (short, middle, or long maturities; or bonds versus mortgage securities) will have the most desirable returns during the period under study. Rather, the index weights bonds and mortgage securities, and the various maturities, in the same proportion as they exist in the investment-grade fixed income market.

For assessing the adequacy of total portfolio results, it is possible to compare returns between funds or fund groups. Pension fund administrators should also be comparing their fund's total portfolio return to the total portfolio return that results from the target asset mix, assuming each asset class meets its benchmark. For their own internal reviews, fund administrators would use the benchmarks and target asset mix specified in the fund's investment policy statement, which every fund is required by law to have. If the actual total portfolio return is less than the total portfolio return resulting from the target asset mix and the asset class benchmark returns, the shortfall can be traced to departures of the actual asset mix from the target mix, or asset class under performance, or a combination of the two.

MTRFA

Minneapolis Teachers' Retirement Fund Association

Karen Kilberg, Executive Director

July 18, 2002

Senator Dean Johnson
State Capitol 124B
75 Constitution Avenue
St. Paul, MN 55155

Dear Senator Johnson:

As Chairman of the Legislative Commission on Pensions and Retirement, the Minneapolis Teachers' Retirement Fund Association (MTRFA) felt that you should be aware of a situation that has recently been identified by the MTRFA involving one of our professional investment managers.

I am enclosing a copy of a letter that was sent to State Auditor Judy Dutcher that provides the information as we know it today.

Please call me if you need anything further or if you have any other questions.

Sincerely,

Karen Kilberg

Karen Kilberg
Executive Director

Cc: MTRFA Board of Trustees
Lawrence Martin, LCPR Executive Director

730 Second Avenue South • Suite 815 • Minneapolis, Minnesota 55402

MTRFA

Minneapolis Teachers' Retirement Fund Association
Karen Kilberg, Executive Director

July 18, 2002

State Auditor Judith H. Dutcher
525 Park Street Suite 400
St. Paul, Mn 55103

BY FAX AND US MAIL

Dear State Auditor Dutcher:

The purpose of this letter is to notify you per Chapter 609.456 that on Monday, July 15 the Minneapolis Teachers' Retirement Fund Association (MTRFA) discovered that Advanced Investment Management, a professional investment management firm hired by the MTRFA, had violated our investment policy restrictions and over exposed the MTRFA to the futures' market. By doing so the fund became leveraged and as a result has lost upon initial analysis somewhere around $11 million. As soon as this was discovered, the MTRFA Board of Trustees was informed of the situation and they authorized me to take the following steps. As of this writing, the MTRFA has:

1. Notified AIM to cease trading the account and terminated them on Tuesday, July 16. The MTRFA attorney was notified to begin reviewing the legal implications of the violations. The Clifton Group, another manager of the MTRFA who has expertise in this kind of investment, received authorization to trade in the terminated AIM portfolio. Trading, however could not take place until The Clifton Group received a certified listing of the assets from Mellon Capital, the MTRFA custodial bank, for the terminated AIM portfolio.

2. The Clifton Group received a copy of the certified listing of assets on Wednesday, July 17 and has re-positioned the portfolio so that the MTRFA is no longer leveraged. Attorney Barry Lazarus has been given copies of the agreements with AIM and is working on possible means for us to recover losses.

3. Attached is an unaudited estimate of the losses created by AIM over the losses in the S&P 500. (Their mandate was to take market risk plus 70 basis points.)

I have enclosed a copy of our investment management agreement, the MTRFA investment guidelines, and the latest signed acknowledgment of Investment Restrictions and Policy that states that they will manage the account according to the above documents and Minnesota State Statutes that may apply.

We are in the process of having an analysis done on past investment practices of the firm and when we get a final accounting of the impact to the MTRFA, I will send it to you. The MTRFA attorney will continue to pursue this matter.

I am stunned that a professional firm that had $4 billion in assets under management and an impressive list of corporate and public clients throughout the United States would expose themselves to the possibility of criminal and civil complaints and SEC sanctions. I assure you that the MTRFA will diligently pursue all avenues available in order to recover all assets lost.

Please let me know if there is something else I should be doing for you, if you need any other information or have any further questions.

Sincerely,

Karen Kilberg

Karen Kilberg
Executive Director

Cc: MTRFA Board of Trustees

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Craig P. Cooper
Barbara Johnson
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News Release

Contact Name: Judith M. Johnson
Executive Director and Chief Investment Officer
Minneapolis Employees Retirement Fund
612-335-5939

Termination of Advanced Investment Management Inc.

MINNEAPOLIS (July 26, 2002) On July 12 the Minneapolis Employees Retirement Fund (MERF) Board terminated the investment management services of Advanced Investment Management Inc. (AIM) after the Board discovered that AIM had violated the investment guidelines specified in its contract.

MERF retained the services of AIM, a Pittsburgh-based registered investment management firm, in February of 1993 for management of a synthetic enhanced S&P Index account (this is a semi passive investment strategy where a manager seeks to replicate the return of an index fund and add approximately 70 basis points in additional return).

"The MERF Board took swift action when we discovered AIM's violation of our investment guidelines, by terminating the contract and immediately halting all trading by AIM," said Judith Johnson, Executive Director of MERF.

MERF terminated AIM on July 12, 2002 and retained Pacific Investment Management Company, (PIMCO) to de-leverage the account. Trade statements clearly show that AIM began to de-leverage MERF's account after the call from Ennis Knupp on July 8, 2002. PIMCO has advised MERF that it had to sell $130 million of excess leverage on July 18, 2002 to bring the holdings in the account to the market value of the account, which was $76 million.

"This unfortunate loss underscores the importance of the board's controls and investment oversight," said Board Chair James Lind, "However, it is important for the public to understand that the loss will have no long-term impact on the financial health of the fund. Retirees and beneficiaries should understand that there will be no impact on their current benefits, no change in the amount of their checks and no interruption of payments resulting from this issue." The Executive Director noted that the cost of living increase due to retirees next January 1 will also not be impacted. Further, the City of Minneapolis and its sister employers who fund the MERF fund will not be financially impacted by the loss."

Minnesota's nine public pension funds, which includes MERF, are protected under the State of Minnesota Public Pension Fiduciary Act (Mn.Stat. 356A). AIM has certified annually that it is governed by this law and that it will follow investment guidelines.

"We believe this is a very serious breach of contract and have already referred the matter to outside legal counsel. The AIM firm is subject to the jurisdiction of the Securities and Exchange Commission and it is likely that a complaint will be forwarded to them for further investigation and, hopefully, enforcement action against the the firm." said Johnson.

The MERF Board is responsible for managing fund investments on behalf of its 6,120 members. MERF currently has 836 active working members, 200 members on deferred retirement and 5,084 members

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receiving monthly retirement checks. Over 60% of the active members are employed by the City of Minneapolis. Another 35% are non teaching personnel at the Minneapolis Public Schools. The remaining members are employed by the Metropolitan Airports as firefighters, police officers and general administrative personnel.

The loss has been recognized for MERF's financial statements for the year ended June 30, 2002. Despite the $9 million loss incurred in June, 2002, MERF expects that its returns for the year ended June 30, 2002 and its three year and five year returns to be comparable to the returns of the SBI. SBI manages the pension assets of the state's three large pension systems: PERA, MSRS and TRA.

MERF's annual returns have exceeded the returns of the State Board of Investment (SBI) over the most recent three year period ended in March 31, 2002. MERF's retiree post fund, where 81% of the assets are held, earned 2.7% on a three year annualized basis as of March 31, 2002 and the SBI earned 1.5% over the same time period. The most recent five year comparison between the funds showed that the five year investment performance was virtually the same. The difference in returns for the two funds over time frames shorter than five years is due to the fact that the two funds have slightly different asset allocations. Minnesota's SBI is well regarded and ranks high in comparison with other state funds. As a matter of MERF board policy MERF's investment consultant must measure the investment risk of the SBI portfolio and compare it to the investment risk of MERF's portfolio on an annual basis. MERF Board policy states that MERF's asset allocation can not have a higher level of risk than the portfolio managed by SBI.

MERF is taking the unusual step of issuing a press release in part because the client list of AIM lists several Minnesota based entities. With the collapse of the US stock market, some of these entities might infer that losses in their account are solely related to the market downturn when, in fact, a portion might be due to AIM violations of contract guidelines. Johnson said, "We encourage all AIM clients to review their portfolio in a detailed, forensic manner. Each client should ask, "What is the probability in a large client base, that only three public pension plans incurred losses due to contract violations." Johnson noted "There is a serious question that now must be addressed by every AIM client. The fiduciary question is actually quite simple. "If the internal controls at AIM were systematically over-ridden and guidelines violated day after day, even if your fund did not incur losses, what are the guarantees that would protect your pension fund assets in the future?" A list of AIM clients as of December 31, 2001 is attached to this press release. Other firms may have retained AIM in the past twelve months.

Background Information

With an enhanced index strategy, an investment manager does not purchase or sell individual stocks, which have historically been a higher risk form of investment management. Instead the manager uses the futures market to gain market exposure to the 500 stocks contained in the S&P index. Unlike owning the individual stocks in the S&P index, or investing in an S&P index fund, an enhanced strategy using futures and options requires that only a portion of the total value of the investment be paid at the time of purchase. The manager utilizes the remainder of the cash in the account to buy a high quality short duration fixed income portfolio. This strategy specifically excludes market timing and leverage.

In early February MERF requested that its investment consultant firm, Ennis Knupp of Chicago, Illinois, begin an investigation into the cause of unusual losses in MERF's account in October and November ,2001. In addition, the consultant was to determine the cause of the unusual gains in the account for December, 2001 and January, 2002. AIM had always produced returns that were slightly higher and sometimes slightly lower than the S&P index. Both the losses and the gains over the four months were statistically "outliers". The Executive Director noted that she has 32 years experience as an accountant and that her auditor's nose was telling her that something was wrong. As a result of the out-performance in December 2001, and January, 2002, Aim was eligible for a performance based fee of almost $500,000. Without this unusual performance during December and January AIM would have earned no fee for the previous year. MERF was billed and has paid a performance fee of almost $500,000.

Ennis Knupp reviewed the custody records and held discussions with AIM's President and Chief Investment Officer Thomas Allen. Ennis Knupp was not fully satisfied with AIM's response. The consultant balanced nine years of consistent positive performance against four months of unexplained performance. Ennis Knupp had further discussions with MERF's Executive Director. The consultant indicated that AIM could be retained if the consultant could negotiate additional controls on the account. Thomas Allen agreed to the new risk control measures, to be effective on April 1,2002. The new restrictions were expected to lower MERF's return over the S&P from 70 basis points to 50 basis points. In turn, the controls would limit MERF's loss potential to no more than 50 basis points under the S&P index. MERF believes that it is now clear that AIM violated not only the general contract guidelines and restrictions, but also the new restrictions they had just negotiated.

In June of 2002 MERF's Executive Director noted unusual losses in the AIM account on the daily custodian reports. Heightened monitoring of daily reports was employed due to the problems in the fourth quarter of 2001. By July 8,2002 it was crystal clear that something was very wrong. MERF ordered an immediate investigation on the same date that Ennis Knupp's other AIM client, San Bernardino County notified Ennis Knupp that they suspected that excess leverage had been applied to their account. In MERF's account there was also clear evidence of mid-month market direction bets (commonly known as market timing). Both leverage and market timing are specifically prohibited because they add significant risk to the account. When leverage and market timing exist together, a low risk account is converted into a high risk strategy most similar to a hedge fund. MERF's investment guidelines prohibit market timing. Under MERF's overlay authority AIM had to daily monitor the account to insure that there was no more than 15% leverage on the account on any day. Thus, the account could never have less exposure to the S&P than 85% of the account value and never more exposure than 115% of the account's market value. In addition the account guidelines specified that there could never be effective S&P exposure for the entire account that is less than 85%. MERF believes that the level of contract violations were significant and include the fact that AIM engaged in market timing and reduced MERF's exposure to the S&P to a low of 58% in December and increased MERF's S&P exposure to a level of 400% leverage on the account.

On July 8, 2002 Ennis Knupp began a review of holdings with consultation provided by an expert in the enhanced S&P index strategy. It was determined that AIM's account had 400% effective leverage. Ennis Knupp spoke with the president of AIM and ultimately determined that no confidence could be placed in AIM. Late in the afternoon of July 12, 2002 Ennis Knupp advised both MERF and San Bernardino County to terminate AIM as manager as soon as a transition manager could be employed to take over the management of the account. San Bernardino terminated AIM on July 11, 2002 and issued a press release on July 18, 2002 reporting that $55 million dollars had been lost as a result of breach of contract guidelines.

MERF retained PIMCO to act as transition manager and the agreement with PIMCO was executed on July 13, 2002. PIMCO could not trade the account until it had a certified list of holdings from MERFs custodian. This certified list was delivered to PIMCO the evening of July 17, 2002. PIMCO traded out $130 million of leverage early in the morning of July 18, 2002. The market continued to fall and through Friday July 19, 2002, MERF avoided an additional loss of $8 million as calculated by PIMCO. Executive Director Johnson noted that a delay of even 36 hours would have greatly increased its loss. As the markets have continued to collapse this week, MERF's exposure is exactly equal to the market value of the account. MERF's custodian is currently calculating the monitary value of orders placed by AIM to de-leverage. MERF's account beginning with July 8, 2002, the date Ennis Knupp contacted AIM and ending on July 12, 2002, the date AIM was terminated. MERF and its consultants believe that AIM placed over 400% leverage on MERF's account.

The total loss due to AIM's contract violations is $27 million. $9 million of the loss is applicable to losses in June, 2002 and the $18 million in losses is applicable to July, 2002. While the dollar amount of the loss is significant, it represents is less than 2% of the total fund.

Background on MERF

The MERF board is responsible for managing investments on behalf of 6,120 MERF members. MERF currently has 836 active working members, 200 members on deferred retirement and 5,084 members receiving monthly retirement checks. Over 60% of the active members are employed by the City of Minneapolis. Another 35% are non teaching personnel at the Minneapolis Public Schools. The remaining members are employed by the Metropolitan Airport Commission as firefighters, police officers and general administrative workers.

The MERF fund was closed to new members in 1978 and new employees hired since that date are covered by the Public Employees Retirement Fund (PERA). All of MERF's remaining active members are eligible to retire within the next five years.

The Board is advised by Ennis Knupp, a nationally recognized pension consulting firm. All of the assets are managed by independent outside money managers and no funds are managed by the fund itself. The fund is diversified broadly among asset classes. The pension funds assets are managed by nine nationally recognized independent institutional money managers. 70% of MERF's domestic equities are held in a passive index fund with State Street Global Advisors. MERF holds 46% of assets in domestic equities, 20% in foreign equities, 30% in bonds, 4% in REIT stocks and 1% in cash. 100% of MERF's investments trade daily on various stock exchanges around the world. MERF holds no direct investments in real estate, venture capital, alternative investments or hedge funds as a matter of Board Policy.

Key Dates

February 26, 1993	AIM is the successful candidate in MERF's national manager search for a S&P 500 enhanced index investment mandate.
February, 2002	MERF requests that its investment consultant initiate an inquiry into the cause of unusual performance in MERF's account during the fourth quarter of 2001.
April 1, 2002	In February 2002 AIM agrees to stricter guidelines that are effective on April `, 2002. Investment consultant recommends that MERF board continue to retain AIM.
July 8, 2002	MERF advises investment consultant to begin urgent investigation of AIM's Management of MERF's account.
July 11, 2002	Investment consultant advises MERF to terminate manager due to contract guidelines violations as quickly as a transition manager can be hired.
July 12, 2002	AIM is terminated.

ADVANCED INVESTMENT MANAGER
12-31-2001 CLIENT LIST

ENHANCED INDEX CLIENTS

ACE, Limited (2)
Self-Insurance Corporation
Allegheny County Retirement Board
Retirement Fund (2)
Allegheny Technologies, Inc. (2)
Retirement Fund
Aventis Pharma (2)
Employees' Retirement System
Catholic Healthcare Partners (2)
Corporation
Catholic Healthcare Retirement Trust
Employees' Retirement System

Dow Chemical Company
Engelhard Corporation
Forum Health
FPL Group, Inc
General Mills, Inc. (2)
Georgia-Pacific Corporation

Michigan Universities
Minneapolis Employees'
Minneapolis Teachers'
Missouri State
Niagara Mohawk Power
Pennsylvania State

Celanese Americas Corporation
Group Incorporated
CIBA Chemical
Local #73
CIGNA (2)
College of St. Scholastica
Inc.
Cooper Industries, Inc.
America
Devon Energy Production Company

( ) Number of Accounts

Health Services Retirement Plan

Hershey Foods Corporation

Hoffmann-LaRoche, Inc. (2)
Intermountain Health Care

Iowa Health System

Lincoln Electric Company

Public Service Enterprise

Sheet Metal Workers

Tennant Company
Toyota Motor Sales, USA,

United Mine Workers of

Viacom Inc. (2)

<u>OTHER MANDATES CLIENTS (HEDGING AND RISK MANAGEMENT CLIENTS**)</u>

Allegheny Technologies, Inc.
Aventis
Beckwith Machinery Company
Carnegie Mellon University
CBS, Inc.
Consolidated Natural Gas Company
Delta Airlines
Hoffmann-LaRoche, Inc.
ICMA Retirement Corporation
Ikon Office Solutions

Keebler Company
Kerr Group
Kresge Foundation
Public Service Company of New Mexico
Public Service Enterprise Group Incorporated
St. Francis Hospital
Stackpole Corporation
Uniroyal Corporation
University of Rochester

** Current and past hedge clients